REMARKS

Reconsideration of the above-referenced application is respectively requested in view of the above amendments and these remarks. Claims 1-2, 8, 12, 14, 16-19, 22, 27-33, 36, 41-43, 46 and 51 are currently pending.

According to the Office Action, the Specification is objected to for containing abbreviations or acronyms without explanation, i.e. using Infiniband and RapidIO. As suggested in the Office Action, Applicants have amended the Specification at the first instance of the terms Infiniband and RapidIO to identify them as standard protocols promulgated by InfiniBand® Trade Association and the RapidIO® Trade Association. As stated previously, both Infiniband and RapidIO are protocols that are similar to Internet Protocol (IP), Ethernet, Asynchronous Transfer Mode (ATM) and Synchronous Optical Network (SONET). Neither Infiniband nor RapidIO are abbreviations or acronyms. Both protocols have been available for many years (Infiniband was founded in 2001 and RapidIO in 1997) and are therefore readily known by those of skill in the art to which this application is directed just as IP, ATM and SONET are known. Thus, Applicants submit that no new matter is entered by this amendment. Accordingly, Applicants request that this objection be withdrawn.

The reference to a Clos network as a two stage/tier network is also objected to in the Specification. Evidence is offered that Clos networks are at least three stage/tier networks. Applicants respectfully submit that to one of ordinary skill in the art a two stage/tier network is understood as a form of a three stage/tier Clos network. As stated previously, when the output side of a three stage/tier Clos network is folded over onto the input side of the Clos network a three stage/tier Clos network serves as a two stage/tier network. By folding over, it is respectfully submitted that the first stage switches of the Clos network serves as both input stage switches and output stage switches of the Clos network.

The cited references each describe a traditional three stage/tier Clos network that includes three stages of switches, where each switch has input ports and output ports. The first stage is known as the input stage switch, and its input ports are connected to input nodes to the Clos network. The output ports of the input stage switch are connected

by links to the input ports of the center stage switch. The output ports of the center stage switch is connected by links to the input ports of the third stage, which is known as the output stage switch. The output ports of the output stage switch are connected to the output nodes of the Clos network. As known by those of skill in the art of Clos networks, it is common to move in one direction, e.g. left to right, from the input ports of the input stage switch through the links to the center stage switch and the center stage switch through the links to the output stage switch and through the output stage switch to the output ports of the output stage switch.

The present invention uses the concept of bi-directional ports and bi-directional links. Bi-directional ports allow the ports of a switch to serve as both input ports and output ports. Bi-directional links between the switches allow the signals to be input and output to the ports of the different switches in the network, whether that network is a Clos network, bi-delta network or mesh network. Using bi-directional ports and bi-directional links connection, a signal can move back and forth between two switches and move from the input stage switch to a center stage switch and return to the input stage switch. Thus, a signal that is inputted into the bi-directional input ports of the input stage switch can go through the first stage switch to the bi-directional output ports of the input stage switch, move along the bi-directional links to the bi-directional input ports of the center stage switch, through the center stage switch to return to another of the bi-directional input ports of the center stage switch that is serving as an output port of the center stage switch, move along the bi-directional links to the bi-directional output ports that are serving as input ports of the input stage switch that is now serving as an output stage switch of the Clos network, through the input stage switch, which is serving as an output stage switch, to the bi-directional input ports that are serving as output ports of the input stage switch as well as output ports of the output stage switch. As such, the bi-directional ports and bi-directional links allow a three stage/tier Clos network to be configured using two stages of switches. And this is what is meant in the present application and the claims by a two stage/tier Clos network.

In the Response to Arguments section, it is stated that Zola illustrates a Clos network that is three stages/tiers: Input, center and output. Zola uses uni-directional ports and links so that the input switch connects to the center switch using a uni-

directional link and the center switch connects to the output switch using a uni-directional port. The claimed invention, however, uses bi-directional ports and links to bi-directionally couple the first switch to the second switch. Thus, the first switch serving as an input stage switch connects to a second switch serving as a center stage switch using bi-directional links. Moreover, the second switch serving as the center stage switch connects to the first switch now serving as an output stage switch using the same bi-directional links. Thus, first switch serves as both the input stage switch and the output stage switch, and the Clos network described in Zola is created using two stages of switches.

Based on these explanations and the details previously provided, Applicants respectfully submit that it is possible to configure a Clos network using a first tier of switches with a second tier of switches. Applicants therefore request that this objection be withdrawn.

Claims 1-2, 5-6, 8, 10-14 and 15-51 are rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the enablement requirement. Claim 1 is rejected because it is unclear as to how left end-node devices can communicate with one another. Applicants have explained above how using bi-directional ports and bi-directional links between different stages illustrate how an input stage switch can function as an output stage switch in a network. Thus, a node that is connected to the input ports of an input stage switch can communication through bi-directional ports and bi-directional links to the bi-directional ports of the center stage switch through the center stage switch to the bi-directional ports of the center stage switches and back through the same bi-directional ports and links to the input stage switches serving as output stage switches and to other left end-node devices connected to the input/output stage switches. Based on this explanation, Applicants respectfully submit that the claimed language of bi-directionally coupling left side switches to right side switches permits left end-node devices to communication with each other. Applicants therefore respectfully submit that claims are enabled, i.e. by bi-directionally coupling. Applicants request that this rejection be withdrawn.

Claims 16, 30 and 43 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. In particular, claims 16, 30 and 43

couple a Clos network, bi-delta and mesh networks between left side switches and right side switches. Applicants once again respectfully submit the claim limitation "bi-directionally couple" permits the Clos network to be coupled to the bi-delta network that in turn is connected to the mesh network. As extensively explained above, a Clos network can be created using two stages of switches and bi-directional ports and bi-directional links. In the description above, the bi-directional input ports of the center stage switch were discussed and described as the input ports from the bi-directional links to the center stage switch and the output ports to the bi-directional links from the center stage switch. In the description above, the bi-directional output ports of the center stage switch were not discussed. These bi-directional output ports and the bi-directional links therefrom are bi-directionally coupled to the input ports of the claimed bi-delta network. Likewise, the bi-directional output ports and bi-directional links from the bi-delta network are connected to the mesh network. Similar to the Clos network and bi-delta network, the mesh network as bi-directional ports and bi-directional links such that an input port can serve as an output port and nodes connected to the mesh network can connect to one another.

In the Response to Argument section, it is stated that the application does not support the connections. Applicants reiterate their earlier arguments and also point to FIGs. 7 and 8 to provide the adequate disclosure of the connections between the various forms of the networks as described above and as claimed. Applicants respectfully submit that the Clos network serves as input nodes to the bi-delta network and mesh network serves as output nodes to the bi-delta network. According to the bi-directional ports and bi-directional links, input nodes to the Clos network serve as output nodes to the Clos network and the input nodes to the mesh network serve as output nodes to the mesh network. Moreover, the input nodes to the Clos network connect to the output nodes of the mesh network through the bi-delta network.

In view of the foregoing, it is respectfully submitted that the specification and claims provide adequate disclosure to enable the claims. Applicants therefore request that this rejection under Section 112, first paragraph be withdrawn.

Claims 1, 2, 5-6, 8, 10-14 and 16-51 are rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particular point out and distinctly claim the

subject matter that Applicants regard as the invention. Claims 1, 16, 30 and 43 are rejected because it is not understood what the nature of the Clos network is. Applicants have fully explained the Clos network above, and those statements are repeated here. Applicants respectfully submit that based on this description and as understood by one of ordinary skill in the art in view of the Specification a Clos network is definite and distinctly claim.

Claim 10 has been rejected because "a constant bandwidth mesh network" is unclear. Claims 5 and 11 are rejected as "rearrangeably non-blocking network" is unclear. Claim 6 is rejected as "a strictly non-blocking network" is unclear. Claim 13 is rejected as a "fully non-blocking mesh network" is unclear. Applicants respectfully disagree that these terms are unclear in light of their earlier arguments, the explanation provided in the Specification and the understanding of one of ordinary skill in the art. Nonetheless, Applicants have cancelled the claims including these terms therefore obviating these rejections

Claims 1, 16, 30, and 43 are rejected because it is unclear how a Clos network and a bi-delta network and a mesh network can be coupled together. As previously stated, the bi-directional input ports of the bi-delta network's input stage are connected to the bi-directional output ports of the center state of the Clos network and the bi-directional output ports of the bi-delta network's output stage are connected to the mesh network. This is fully described above as well as in the Specification. Thus, Applicants respectfully submit that the rejected claims are definite and particular point and out and distinctly claim the subject matter of the invention.

In view of the foregoing, Applicants respectfully submit that the claims are in the correct format. Applicants therefore request that the rejections under Section 112, second paragraph be withdrawn.

As the Applicants have overcome all substantive rejections and objections given by the Examiner and have complied with all requests properly presented by the Examiner, the Applicants contend that this Amendment, with the above discussion, overcomes the Examiner's objections to and rejections of the pending claims. Therefore, the Applicants respectfully solicit allowance of the application. If the Examiner is of the opinion that any issues regarding the status of the claims remain after this response, the

Examiner is invited to contact the undersigned representative to expedite resolution of the matter.

Please charge any fees associated herewith, including extension of time fees, to **50-2117**.

Respectfully submitted,
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